

1. Record Nr.	UNINA9910800147103321
Autore	Dosedla Martin
Titolo	Implementation of 3D Printing Technology into Primary and Secondary School Education : Verified Methodology
Pubbl/distr/stampa	Masaryk University Press, 2023 Brno : , : Masaryk University, , 2023 ©2023
Edizione	[1st ed.]
Descrizione fisica	1 online resource (87 pages)
Collana	Odborné a technické vzdělávání ; ; v.5
Altri autori (Persone)	HodisZdenk JanováMartina LedvinkaJiří LvovskáLeni MalinkaKamil MísaováDarina PitnerováPavla SchindlerVladimír StankVojtech
Soggetti	3D graphics and modelling
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Content -- 1  FOREWORD -- 1   1 Objective of methodology -- 1   2 Definition of 3d printing -- 2  Technical part -- 2   1 Acquiring a printer -- 2   1   1 Printer selection -- 2   1   2 Number and availability of 3D printers for efficient use in teaching -- 2   1   3 Support equipment for printers -- 2   1   4 Printer placement, security, and access control -- 2   2 Printer operation, printing materials, and cost -- 2   2   1 PLA -- 2   2   2 ABS/ASA -- 2   2   3 Other materials -- 2   2   4 Table of comparison of materials -- 2   2   5 Printing costs -- 2   2   6 Printer accounting -- 2   3 Printing process -- 2   3   1 Acquiring models for printing -- 2   3   2 Preparation of printing -- 2   3   3 Printer operation -- 2   3   4 Finishing 3D prints -- 2   4 Printer maintenance -- 2   5 Common 3D PRINTING PROBLEMS and their

solutions -- 3 | Educational part -- 3 | 1 USING 3d models in education -- 3 | 1 | 1 Models as teaching aids -- 3 | 1 | 2 Benefits of using 3D models in education -- 3 | 1 | 3 Barriers to 3D printing in education -- 3 | 2 Implementation of 3D PRINTING TECHNOLOGY IN THE CURRICULUM -- 3 | 2 | 1 Foreign experience with the implementation of 3D printing in education -- 3 | 2 | 2 Current status of 3D printing in Czech schools -- 3 | 2 | 3 Problems of 3D printing in curricular documents of the Czech Republic Strategy 2030+ -- 3 | 2 | 4 Aspects of 3D printing implementation in education -- 3 | 3 EXAMPLES OF 3D PRINTING IMPLEMENTATION IN MODEL EDUCATIONAL FIELDS -- 3 | 3 | 1 Educational fields: Informatics and Humans and the World of Work -- 3 | 3 | 2 Educational field: Mathematics and Its Application -- 3 | 3 | 3 Educational field: Geography -- 3 | 3 | 4 Educational field: Natural Sciences -- 3 | 4 EDUCATIONAL LESSONS ON BE3D ACADEMY -- 4 | Conclusion -- 5 | Bibliography -- 6 | APPENDICES. 6 | 1 List of created educational lessons -- 6 | 2 List of applicable models for individual subjects -- 6 | 2 | 1 Overview of available 3D models and educational lessons in the field of Humans and the World of Work -- 6 | 2 | 2 Overview of available 3D models and educational lessons in the field of Mathematics and Its Application -- 6 | 2 | 3 Overview of available 3D models and educational lessons in the field of Geography -- 6 | 2 | 4 Overview of available 3D models and educational lessons in the field of Natural Sciences -- 6 | 3 Glossary of terms.

---

## Sommario/riassunto

Title in English: Integrate technologie 3D tisku do vyuky na zakladnich a strednich skolach: Overena metodika With the development of 3D printing technology in recent years, there has been a significant decrease in the price of printers and thus an increase in the availability of this technology. This technological area opens up new possibilities in a wide range of fields from industry, medicine, construction and architecture to the level of everyday home use. We also see a huge didactic potential in 3D technology, which is currently not being used. The implementation of 3D technologies in teaching at primary and secondary schools enables the creation of completely new types of teaching aids and increases the availability of teaching models for pupils and students. Students can work with teaching models in class and, with methodological supports, they also actively participate in their creation.

---